

SPRAY DRYING UNIT



Experimental capabilities

- Heat and mass balances
- Drying time
- Influence of air temperature

DIDATEC– Zone d'activité du parc – 42490 FRAISSES- FRANCE
Tél. +33(0)4.77.10.10.10 – Fax+33(0)4.77.61.56.49 – www.didatec-technologie.com
email : service_commercial@didatec-technologie.com

Reproduction interdite / copy prohibited– Copyright DIDATEC nov.-22- page 1

Dans le cadre de l'amélioration permanente de nos produits, ce descriptif technique est susceptible d'être modifié sans préavis
As part of the continuous improvement of our products, this technical specification may be modified without previous notifying

Operating principle

The GPAS05 bench allows the study of spray drying.

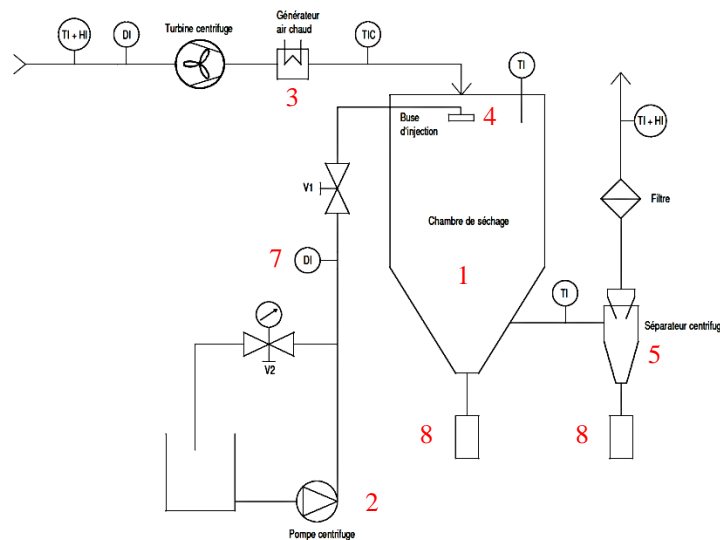
The liquid product is brought to the top of the reactor using a pump. An injection nozzle allows the product to be sprayed in the form of micro drops in the reactor. Hot air circulates in the reactor drying these microdroplets to transform them into powder. The powder is collected in a container at the bottom of the reactor.

The robust design of this device makes it suitable for use in schools.

The equipment is set up on an Anodized aluminium frame on casters wheels. This gives it great strength and a flexibility of integration into your premises.

The manufacture of this equipment complies with the European standard for machinery manufacturing.

Illustrations



1. Drying chamber

- Material: Stainless steel
- Evaporation index at 145 °C: 1500 ml/h

2. Supply pump

- Maximum flow rate: 14 L/h

3. Hot air generator

- Power: 6kW

4. Spray nozzle

- Material: stainless steel
- Internal air + liquid mixture

5. Centrifugal separator

- Material: borosilicate glass

6. Air compressor

- Volume: 20L
- Maximum pressure: 9bars

7. Electromagnetic flowmeter

- Maximum pressure: 16bars
- Flow rate: 0.01-1 L/min

8. Collection container

- Volume: 10L

9. Measures:

- Injected liquid flow
- Hot air flow
- Air inlet/outlet temperature and humidity
- Drying chamber temperature
- Drying chamber outlet temperature

10. This unit is set up on a frame made of aluminum profile with 4 wheels. It includes an electrical cabinet with main switch and differential circuit breaker.

Services required

- Electrical supply: 400 Vac – 50 Hz – 20 A
- Electrical network: 3 phases + Neutral + Earth
- Dimensions : (L x W x H mm) : 2250 x 800 x 1900
- weight (Kg) : 200

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Electrical diagram
- Fluidic diagram
- Certificate of conformity CE

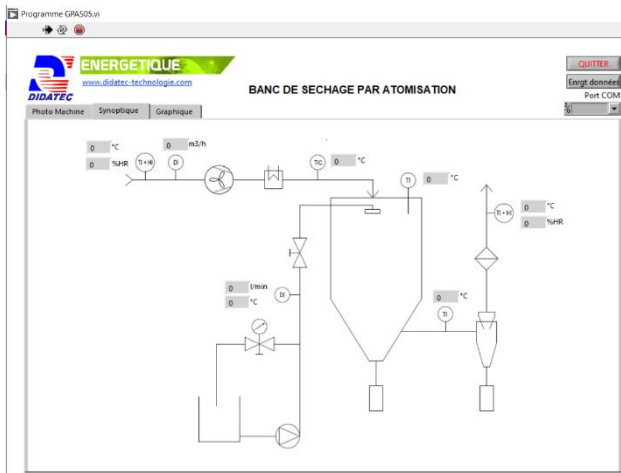
GPA S05



Data acquisition system

The bench is also equipped with supervision. The connection to the PC is made via a standard USB port. The software is divided into two parts:

Diagram:



We find in this window the synoptic of the machine with the location of the various measures of the process and their values

Graph:

In this graphic window, we find the possibility of drawing measurement curves as a function of time by selecting the desired magnitudes and saving the measurements

